

1.0 PROJECT REPORT COVER PAGE

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PROJECT INFORMATION:

Corporate Project Number:	2021-427
MHSTCI Project Number:	P058-1952-2020
Investigation Type:	Stage 1-2 Archaeological Property Assessment
Project Name & Location:	720 Erbsville Road, Waterloo, Part of Lot 28, Upper Block and Part of Lot 45, German Company Tract (Geographic Township of Waterloo, County of Waterloo), City of Waterloo, Region of Waterloo
Project Designation Number:	Not Currently Available

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2.0 EXECUTIVE SUMMARY

This report describes the results of the 2021 Stage 1-2 Archaeological Property Assessment of 720 Erbsville Road, Waterloo, Part of Lot 28, Upper Block and Part of Lot 45, German Company Tract (Geographic Township of Waterloo, County of Waterloo), City of Waterloo, Region of Waterloo, conducted by AMICK Consultants Limited. This study was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Heritage, Sport, Tourism and Culture Industries for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Draft Plan of Subdivision and companion Zoning By-law Amendment application as part of the pre-submission process. Within the land use planning and development context, Ontario Regulation 544/06 under the Planning Act (1990b) requires an evaluation of archaeological potential and, where applicable, an archaeological assessment report completed by an archaeologist licensed by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI). Policy 2.6 of the Provincial Policy Statement (PPS 2020) addresses archaeological resources. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment by high intensity test pit methodology at a five-metre interval between individual test pits, and by high intensity pedestrian survey at an interval of five metres between individual transects on 16 August 2021. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Southwestern District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario. During the Stage 1-2 assessment, one (1) positive test pit was encountered; however, the positive test pit produced insufficient archaeological resources to determine if a Stage 3 archaeological assessment would be necessary. Therefore, one (1) 1 by 1 metre test unit was excavated over the positive test pit, which did not produce additional archaeological resources. Consequently, it was determined that the positive test pit represented an isolated find and a Stage 3 assessment would not be required.

STAGE 1-2 RECOMMENDATIONS:

As a result of the Stage 1-2 Property Assessment of the study area, one isolated artifact was documented.

1. *The Cultural Heritage Value or Interest (CHVI) of the isolated find has been completely documented and the site has been removed from the study area as a result*

of standard Stage 2 Property Assessment procedure. There is no remaining CHVI for this location. No further archaeological assessment of the isolated find is warranted;

2. *Portions of the study area described on the property plan included as Map 4 as "Additional Lands Owned by Applicant" retain archaeological potential and have not been assessed;*
3. *Any proposed use of the lands termed "Additional Lands Owned by Applicant" must be preceded by an archaeological assessment before any ground altering activities of any kind are permitted;*
4. *The areas identified within this report as assessed are clear of further archaeological concern.*

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5.0 PROJECT CONTEXT

5.1 DEVELOPMENT CONTEXT

This report describes the results of the 2021 Stage 1-2 Archaeological Property Assessment of 720 Erbsville Road, Waterloo, Part of Lot 28, Upper Block and Part of Lot 45, German Company Tract (Geographic Township of Waterloo, County of Waterloo), City of Waterloo, Region of Waterloo, conducted by AMICK Consultants Limited. This study was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Heritage, Sport, Tourism and Culture Industries for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Draft Plan of Subdivision and companion Zoning By-law Amendment application as part of the pre-submission process. Within the land use planning and development context, Ontario Regulation 544/06 under the Planning Act (1990b) requires an evaluation of archaeological potential and, where applicable, an archaeological assessment report completed by an archaeologist licensed by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI). Policy 2.6 of the Provincial Policy Statement (PPS 2020) addresses archaeological resources. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment by high intensity test pit methodology at a five-metre interval between individual test pits, and by high intensity pedestrian survey at an interval of five metres between individual transects on 16 August 2021. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Southwestern District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario. During the Stage 1-2 assessment, one (1) positive test pit was encountered; however, the positive test pit produced insufficient archaeological resources to determine if a Stage 3 archaeological assessment would be necessary. Therefore, one (1) 1 by 1 metre test unit was excavated over the positive test pit, which did not produce additional archaeological resources. Consequently, it was determined that the positive test pit represented an isolated find and a Stage 3 assessment would not be required.

The proposed development of the study area includes 79 townhouses within Part A and 39 townhouses or 23 singles within Part B. There is also a proposed stormwater management facility. A preliminary plan of the proposed development has been submitted together with this report to MHSTCI for review and reproduced within this report as Map 4.

5.2 HISTORICAL CONTEXT

5.2.1 PRE-CONTACT LAND-USE OUTLINE

What follows is an outline of Aboriginal occupation in the area during the Pre-Contact Era from the earliest known period, about 9000 B.C. up to approximately 1650 AD.

5.2.1.1 PALAEO-INDIAN PERIOD (APPROXIMATELY 9000-7500 B.C.)

North of Lake Ontario, evidence suggests that early occupation began around 9000 B.C. People probably began to move into this area as the glaciers retreated and glacial lake levels began to recede. The early occupation of the area probably occurred in conjunction with environmental conditions that would be comparable to modern Sub-Arctic conditions. Due to the great antiquity of these sites, and the relatively small populations likely involved, evidence of these early inhabitants is sparse and generally limited to tools produced from stone or to by-products of the manufacture of these implements.

5.2.1.2 ARCHAIC PERIOD (APPROXIMATELY 8000-1000 B.C.)

By about 8000 B.C. the gradual transition from a post glacial tundra-like environment to an essentially modern environment was largely complete. Prior to European clearance of the landscape for timber and cultivation, the area was characterized by forest. The Archaic Period is the longest and the most apparently stable of the cultural periods identified through archaeology. The Archaic Period is divided into the Early, Middle and Late Sub-Periods, each represented by specific styles in projectile point manufacture. Many more sites of this period are found throughout Ontario, than of the Palaeo-Indian Period. This is probably a reflection of two factors: the longer period of time reflected in these sites, and a greater population density. The greater population was likely the result of a more diversified subsistence strategy carried out in an environment offering a greater variety of abundant resources. (Smith 2002:58-59)

Current interpretations suggest that the Archaic Period populations followed a seasonal cycle of resource exploitation. Although similar in concept to the practices speculated for the big game hunters of the Palaeo-Indian Period, the Archaic populations utilized a much broader range of resources, particularly with respect to plants. It is suggested that in the spring and early summer, bands would gather at the mouths of rivers and at rapids to take advantage of fish spawning runs. Later in the summer and into the fall season, smaller groups would move to areas of wetlands to harvest nuts and wild rice. During the winter, they would break into yet smaller groups probably based on the nuclear family and perhaps some additional relatives to move into the interior for hunting. The result of such practices would be to create a distribution of sites across much of the landscape. (Smith 2002: 59-60).

The material culture of this period is much more extensive than that of the Palaeo-Indians. Stylistic changes between Sub-Periods and cultural groups are apparent, although the overall

quality in production of chipped lithic tools seems to decline. This period sees the introduction of ground stone technology in the form of celts (axes and adzes), manos and metates for grinding nuts and fibres, and decorative items like gorgets, pendants, birdstones, and bannerstones. Bone tools are also evident from this time period. Their presence may be a result of better preservation from these more recent sites rather than a lack of such items in earlier occupations. In addition, copper and exotic chert types appear during the period and are indicative of extensive trading (Smith 2002: 58-59).

5.2.1.3 WOODLAND PERIOD (APPROXIMATELY 1000 B.C.-1650 A.D.)

The primary difference in archaeological assemblages that differentiates the beginning of the Woodland Period from the Archaic Period is the introduction of ceramics to Ontario populations. This division is probably not a reflection of any substantive cultural changes, as the earliest sites of this period seem to be in all other respects a continuation of the Archaic mode of life with ceramics added as a novel technology. The seasonally based system of resource exploitation and associated population mobility persists for at least 1500 years into the Woodland Period. (Smith 2002: 61-62)

The Early Woodland Sub-Period dates from about 1000-400 B.C. Many of the artifacts from this time are similar to the late Archaic and suggest a direct cultural continuity between these two temporal divisions. The introduction of pottery represents and entirely new technology that was probably acquired through contact with more southerly populations from which it likely originates. (Smith 2002:62)

The Middle Woodland Sub-Period dates from about 400 B.C.-800 A.D. Within the region including the study area, a complex emerged at this time termed “Point Peninsula”. Point Peninsula pottery reflects a greater sophistication in pottery manufacture compared with the earlier industry. The paste and temper of the new pottery is finer and new decorative techniques such as dentate and pseudo-scallop stamping appear. There is a noted Hopewellian influence in southern Ontario populations at this time. Hopewell influences from south of the Great Lakes include a widespread trade in exotic materials and the presence of distinct Hopewell style artifacts such as platform pipes, copper or silver panpipe covers and shark’s teeth. The populations of the Middle Woodland participated in a trade network that extended well beyond the Great Lakes Region.

The Late Woodland Sub-Period dates from about 500-1650 A.D. The Late Woodland includes four separate phases: Princess Point, Early Ontario Iroquoian, Middle Ontario Iroquoian and Late Ontario Iroquoian.

The Princess Point phase dates to approximately 500-1000 A.D. Pottery of this phase is distinguished from earlier technology in that it is produced by the paddle method instead of coil and the decoration is characterized by the cord wrapped stick technique. Ceramic smoking pipes appear at this time in noticeable quantities. Princess Point sites cluster along major stream valleys and wetland areas. Maize cultivation is introduced by these people to

Ontario. These people were not fully committed to horticulture and seemed to be experimenting with maize production. They generally adhere to the seasonal pattern of occupation practiced by earlier occupations, perhaps staying at certain locales repeatedly and for a larger portion of each year (Smith 2002: 65-66)

The Early Stage dates to approximately 950-1050 A.D. This stage marks the beginning of a cultural development that led to the historically documented Ontario Iroquoian groups that were first contacted by Europeans during the early 1600s (Petun, Neutral, and Huron). At this stage formal semi-sedentary villages emerge. The Early stage of this cultural development is divided into two cultural groups in southern Ontario. The areas occupied by each being roughly divided by the Niagara Escarpment. To the west were located the Glen Meyer populations, and to the east were situated the Pickering people (Smith 2002: 67).

The Middle Stage dates to approximately 1300-1400 A.D. This stage is divided into two sub-stages. The first is the Uren sub-stage lasting from approximately 1300-1350 A.D. The second of the two sub-stages is known as the Middleport sub-stage lasting from roughly 1350-1400 A.D. Villages tend to be larger throughout this stage than formerly (Smith 2002: 67).

The Late Stage dates to approximately 1400-1650 A.D. During this time the cultural divisions identified by early European explorers are under development and the geographic distribution of these groups within southern Ontario begins to be defined.

5.2.2 GENERAL HISTORICAL OUTLINE

Following the American Revolution, the British Government granted the Grand River valley to its allies, the Iroquois confederation refugees from central and western New York State. The grant ran the length of the Grand River from Lake Erie to the Elora falls, with the width being six miles to either side of the river. The Confederacy soon offered almost half of the upper area for sale. It was divided into four blocks.

Settlement of the area started in 1800 by Joseph Schoerg and Samuel Betzner, Jr. (brothers-in-law), Mennonites from Franklin County, Pennsylvania. Other Mennonite settlers from Pennsylvania soon followed. In 1805 a company formed in Pennsylvania purchased 60,000 acres (240 km²) (most of Block 2, Grand River Indian Lands- later known as Waterloo Township). Settlers came from Pennsylvania by overland route and typically by Conestoga wagons. Most settlers purchased land title deeds directly from Richard Beasley. However, it was later found out that Richard Beasley did not have clear title to Block 2 (he shared it with Joseph Wilson and John B. Roseau), hence the settlers' deeds were invalid. The settlers were forced to ask for relief from their home country. Additional funds were raised to purchase outright the 60,000 acres (240 km²) of Block 2.

In 1806 Benjamin Eby (made Mennonite preacher 1809, and bishop in 1812) purchased land consisting of a large part of what would become the village of Berlin (named about 1829).

Eby, founder of Berlin, encouraged manufacturers to move to the village. Jacob Hoffman came in 1829 or 1830 and started the first furniture factory in the village.

In 1807, 45,195 acres (182.9 km²) of Block 3 (Woolwich) was purchased by Pennsylvanians John Erb, Jacob Erb and others.

The war of 1812 interrupted settlement. The Mennonite settlers refused to carry arms so were employed in camps and hospitals and as teamsters in transport service during the war.

Waterloo County was established in 1853. The county seat was established in Berlin Berlin (a ratepayer's vote in 1916 changed the name from Berlin to Kitchener) when local merchant Joseph Gaukel donated a small parcel of land he owned (at the current Queen and Weber streets), in order to establish a courthouse and gaol which were requirements to hold the county seat. The courthouse and gaol were built within a few months and the county began operations.

In 1973 the provincial government restructured this layout: this formed the current cities of Kitchener (which absorbed Doon) and Waterloo; the city of Cambridge was formed from Hespeler, Preston, Galt, and Blair; as well as the townships of Wellesley, North Dumfries, Wilmot, and of Woolwich, which grew to contain the northeast corner of the former Waterloo township. All former village, town and city councils joined into the new township or city council; and an overseeing regional council handled the former county-level responsibilities, as well as now providing police service for the region as a whole (Briethaupt, W. H., 1927: 991).

The Township of Waterloo was first acquired by Richard Beasley from Mr. Joseph Brant on the behalf of the Six Nations in 1796. By the 1800's a large number of Mennonite settlers had arrived to the area and purchased land from Mr. Beasley. In 1803 the German Company of Pennsylvania purchased 60,000 acres of land. The acquired land was divided up into roughly equal lots of 200 acres each and shareholders within the company were randomly selected to receive lots to ensure a fair system of distribution. By the 1830's most of the township's settlers were Mennonite and most of the land had been sold. New settlers to the area bought land that was subdivided by property owners, the new settlers were not farmers but rather artisans, labourers, shopkeepers and millers, which would allow the villages and towns within the township greater development potential. During the 1830's there was more diversity in the settlers arriving to the area, including people from England, Ireland, Scotland and Germany. These new settlers helped to build dams for creeks and brooks, as well as various mills and provided hired hands for local farmers (Waterloo Regional Museum, 2017).

By 1850, the proposed railway line started to re-define the development of the township. By 1856, the first railway line was completed, it provided easier direct access to Toronto and 3 stops were located within the township at Shantz Station, Breslau and Berlin. In 1853 Berlin had become the county seat of government for the township and would soon also be the centre of development in the township through industrial projects In 1973 the formation of

Regional Government and due to the continued growth cities of Waterloo and Kitchener, most of the western portion of the township was absorbed into the cities (Waterloo Regional Museum, 2017).

The town of Erbsville was a Pioneer Settlement. The majority of settlers in the area were non-Mennonite immigrants, mainly European Germans, who developed the area post-1835. The town was named after the Erb family, who were early and influential pioneers within Waterloo County. Samuel Erb established a sawmill on Lot 45 of the German Company Tract in the west corner of Waterloo Township by 1845. A dam was constructed on Laurel Creek, which flowed through the village and powered the mill. In the 1870's, Charles Kreutziger took over the area and established another sawmill as well as a shingle and lath factory. The settlement operated as a post village from 1863 to 1914. By 1861, Erbsville had begun to be established at the intersection of Erbsville Road and Conservation Drive. By 1863, the community had a population of 100 people. The village contained a general store offering postal service, a school church, cheese factory, carpenter's shop, an Inn, and two blacksmith shops. There are three buildings with potential cultural heritage value or interest listed on the City of Waterloo's Municipal Heritage Register at 741 Erbsville Road, 720 Schnarr Street and 728 Schnarr Street. (City of Waterloo 2019).

Map 2 is a facsimile segment from the Illustrated Historical Atlas of Waterloo and Wellington Counties (Walker & Miles 1877). Map 2 illustrates the location of the study area and environs as of 1877. The study area is shown to belong to no one, however the west and north ends of the property are within the historic community of Erbsville. This demonstrates that the original property of which the study area is a part was settled by the time that the atlas data was compiled. Accordingly, it has been determined that there is potential for archaeological deposits related to early Post-Contact settlement within the study area. In addition, this map illustrates an unnamed creek in the centre of the study area and a settlement road is depicted as adjacent to the study area to the north and west. The road to the north is the current Conservation Drive and the road to the west is the current Erbsville Road and the creek is a portion of Laurel Creek.

Map 3 is a facsimile segment of the Historical County Map of Waterloo County (Tremaine 1861). Map 3 illustrates the location of the study area and environs as of 1861. The study area is shown to belong to Balthasar Schnarr; one structure is shown to be within the central portion of the study area. The western edge of the study area is shown to be within a community not named on this map, however it is the town of Erbsville. This demonstrates that the original property of which the study area is a part was settled by the time that the atlas data was compiled. Accordingly, it has been determined that there is potential for archaeological deposits related to early Post-Contact settlement within the study area. In addition, this map illustrates an unnamed creek in the centre of the study area to the northeast of the structure and a settlement road is depicted as adjacent to the study area to the north and west. The road to the north is the current Conservation Drive and the road to the west is the current Erbsville Road and the creek is a portion of Laurel Creek.

It must be borne in mind that inclusion of names of property owners and depictions of structures and other features within properties on these maps were sold by subscription. Property owners paid to include information or details about their properties. While information included within these maps may provide information about the occupation of a property at a specific moment in time when the information was collected, the absence of such information does not necessarily indicate that the property was not occupied.

5.2.3 CURRENT CONDITIONS

The present use of the study area is as actively farmed agricultural land, a residence and vacant woodlot. The study area is roughly 9.13 hectares in area. The study area includes within it ploughable lands, woodlot, small portion of lawn by the existing residence and a gravel driveway. The gravel driveway enters the study area off of Erbsville Road and continues to the southern side of the existing residence. The meadow is located in the northern portion of the study area. The ploughable agricultural land is located in the southeast portion of the study area. The wooded area is located centrally and towards the northwest corner of the study area. There is also a portion of Laurel Creek that flows through the centre of the property. The study area is bounded on the north by Conservation Drive and existing residential lots, on the east by the Erbsville cartway and woodlot, on the west by Erbsville Road and on the south by agricultural land. The study area is approximately 135 metres to the east of the intersection of the Erbsville Road and Conservation Drive. A plan of the study area is included within this report as Map 4.

5.2.4 SUMMARY OF HISTORICAL CONTEXT

The brief overview of readily available documentary evidence indicates that the study area is situated within an area that was close to historic transportation routes and in an area well populated during the nineteenth century due to the close proximity of the historic community of Erbsville and therefore has potential for sites relating to early Post-Contact settlement in the region. Background research indicates the property has potential for significant archaeological resources of Native origins based on proximity to a natural source of potable water in the past.

5.3 ARCHAEOLOGICAL CONTEXT

The Archaeological Sites Database administered by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) indicates that there are thirteen (13) previously documented sites within 1 kilometre of the study area. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MHSTCI. In addition, it must also be noted that a lack of formerly documented sites does

not indicate that there are no sites present as the documentation of any archaeological site is contingent upon prior research having been conducted within the study area.

Background research shows that one (1) previous study has taken place within 50m of the study area. For further information see:

Regional Municipality of Waterloo. (1986). *An Archaeological Resource Assessment of the Proposed Subdivision Development 30T-86029 Part of Lot 6 Registered Plan 575 and Part of Lot 45, German Company Tract City of Waterloo*. Assessment conducted by Scarlett Janusas, License 1986-49 MCC HO files.

Data contained in previous archaeological reports in close proximity to the study area that is relevant to Stage 1 Background Study is defined within the Standards and Guidelines for Consultant Archaeologists in Section 7.5.8 Standard 4 as follows:

> *"Provide descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the project area,* ***as documented by all available reports that include archaeological fieldwork carried out on the lands to be impacted by this project, or where reports document archaeological sites immediately adjacent (i.e., within 50 m) to those lands****."*
>
> (MTCS 2011: 126 Emphasis Added)

In accordance with data supplied by MHSTCI for the purposes of completing this study, there is one previous report detailing, *"archaeological fieldwork carried out on the lands to be impacted by this project"*, which documents known archaeological sites within 50 metres of the study area.

The Standards and Guidelines for Consultant Archaeologists stipulates that the necessity to summarize the results of previous archaeological assessment reports, or to cite MHSTCI File Numbers in references to other archaeological reports, is reserved for reports that are directly relevant to the fieldwork and recommendations for the study area (S & Gs 7.5.7, Standard 2, MTC 2011: 125). This is further refined and elaborated upon in Section 7.5.8, Standards 4 & 5, MTC 2011:

> *"4. Provide descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the project area, as documented by all available* ***reports that include archaeological fieldwork carried out on the lands to be impacted by this project, or where reports document archaeological sites immediately adjacent (i.e., within 50m) to those lands."***
>
> *"5.* ***If previous findings and recommendations are relevant*** *to the current stage of work, provide the following:*
>
> a. *a brief summary of previous findings and recommendations*

b. *documentation of any differences in the current work from the previously recommended work*
c. *rationale for the differences from the previously recommended work"*

(Emphasis Added)

The above-noted reports do not have any relevance to the lands to be potentially impacted by the proposed undertaking, do not include fieldwork or recommendations relevant to the study area, however they do document three sites within 50 metres of the study area. Therefore, there is a requirement to include summary data for the previous reports (see Section 5.3.4).

The study area is situated within an area subject to an archaeological master plan or a similar regional overview study. *The Regional Municipality of Waterloo Archaeological Facilities Master Plan* was adopted by Council in September, 1989. The Archaeological Master Plan contains a series of archaeological potential maps, which were compiled to aid planners in determining the possibility of encountering archaeological resources. The potential maps area based on a set of specific criteria relating to the distribution of archaeological sites within the county and are as follows:

- *Proximity of previously recorded sites*
- *Within 150 metres of a water source (edge)*
- *3 kilometers concentric buffer around historic White Pine stands inferring corn fields associated with First Nation villages*
- *Within 100 metres of historic Concession roads, within Historic Settlement Areas*
- *Proximity to well-drained soils*
- *Proximity to glacial shorelines*
- *Proximity to drumlins and eskers*

Based on the above modeling criteria, the current study area is within an area of archaeological potential. The maps compiled within the archaeological management plan do not show the town of Erbsville or the study area, however based on the modeling criteria the study area is within an area of archaeological potential based on the *Regional Municipality of Waterloo Archaeological Facilities Master Plan.*

There is a structure located at 741 Erbsville Road that consists of a 1-½ storey vernacular residential structure with three bays, a gable roof, and asymmetrical two-over-two windows. This structure was erected in 1855 and is one of the preliminary heritage attributes in Erbsville (City of Waterloo 2019). This structure is located approximately 85 metres to the northwest of the study area; therefore there is higher archaeological potential due to the close proximity of an historic structure.

In addition, archaeological sites data is also used to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to establish the relative significance of any resources that might be

encountered during the conduct of the present study. For example, the relative rarity of a site can be used to assign an elevated level of significance to a site that is atypical for the immediate vicinity. The requisite archaeological sites data of previously registered archaeological sites was collected from the MHSTCI and the corporate research library of AMICK Consultants Limited. The Stage 1 Background Research methodology also includes a review of the most detailed available topographic maps, historical settlement maps, archaeological management plans (where applicable) and commemorative plaques or monuments. When previous archaeological research documents lands to be impacted by the proposed undertaking or archaeological sites within 50 metres of the study area, the reports documenting this earlier work are reviewed for pertinent information. AMICK Consultants Limited will often modify this basic methodology based on professional judgment to include additional research (such as, local historical works or documents and knowledgeable informants).

5.3.1 PRE-CONTACT REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MHSTCI. As a result it was determined that six (6) archaeological sites relating directly to Pre-Contact habitation/activity had been formally registered within the immediate vicinity of the study area. However, the lack of formally documented archaeological sites does not mean that Pre-Contact people did not use the area; it more likely reflects a lack of systematic archaeological research in the immediate vicinity. Even in cases where one or more assessments may have been conducted in close proximity to a proposed landscape alteration, an extensive area of physical archaeological assessment coverage is required throughout the region to produce a representative sample of all potentially available archaeological data in order to provide any meaningful evidence to construct a pattern of land use and settlement in the past. All previously registered Pre-Contact sites are briefly described below in Table 1:

TABLE 1 PRE-CONTACT SITES WITHIN 1KM

Site Name	Borden #	Site Type	Cultural Affiliation
Waterloo Chase II	AiHd-79	Findspot	Pre-Contact (Aboriginal)
Waterloo Chase I	AiHd-78	Findspot	Pre-Contact (Aboriginal)
Trillium North 8	AiHd-64	Findspot	Late Archaic (Aboriginal)
	AiHd-168	Findspot	Late Archaic (Aboriginal)
	AiHd-167	Scatter	Pre-Contact
	AiHd-166	Hunting Loss	Late Archaic

One of the above noted archaeological sites (AiHd-64) is situated within 300 metres of the study area. Therefore, it demonstrates archaeological potential for further archaeological resources related to Pre-Contact activity and occupation with respect to the archaeological assessment of the proposed undertaking.

Based on aerial and topographic imagery, the study area contains a portion of Laurel Creek. The distance to water criteria used to establish potential for archaeological sites suggests potential for Pre-Contact occupation and land use in the area in the past.

Table 2 illustrates the chronological development of cultures within southern Ontario prior to the arrival of European cultures to the area at the beginning of the 17th century. This general cultural outline is based on archaeological data and represents a synthesis and summary of research over a long period of time. It is necessarily generalizing and is not necessarily representative of the point of view of all researchers or stakeholders. It is offered here as a rough guideline and as a very broad outline to illustrate the relationships of broad cultural groups and time periods.

TABLE 2 PRE-CONTACT CULTURAL CHRONOLOGY FOR SOUTHERN ONTARIO

Years ago	Period	Southern Ontario
250	Terminal Woodland	Ontario and St. Lawrence Iroquois Cultures
1000 2000	Initial Woodland	Princess Point, Saugeen, Point Peninsula, and Meadowood Cultures
3000 4000 5000 6000	Archaic	Laurentian Culture
7000 8000 9000 10000 11000	Palaeo-Indian	Plano and Clovis Cultures
		(Wright 1972)

5.3.2 POST-CONTACT REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MHSTCI. As a result it was determined that four (4) archaeological sites relating directly to Post-Contact habitation/activity had been formally registered within the immediate vicinity of the study area. All previously registered Post-Contact sites are briefly described below in Table 3:

TABLE 3 POST-CONTACT SITES WITHIN 1KM

Site Name	Borden #	Site Type	Cultural Affiliation
Sugarbush 2	AiHd-48	Unknown	Post-Contact (Euro-Canadian)
	AiHd-173	Unknown	Post-Contact (Euro-Canadian)
	AiHd-165	Outbuilding	Post-Contact (Euro-Canadian)
	AiHd-164	Farmstead	Post-Contact

One of the above noted archaeological sites (AiHd-48) is situated within 50 metres of the study area. Therefore, it demonstrates archaeological potential for further archaeological resources related to Post-Contact activity and occupation with respect to the archaeological assessment of the proposed undertaking.

5.3.3 Registered Sites with an Unknown Cultural Affiliation

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MHSTCI. As a result it was determined that three (3) archaeological sites relating to unknown cultural affiliation had been formally registered within the immediate vicinity of the study area. All previously registered Post-Contact sites are briefly described below in Table 4:

Table 4 Unknown Cultural Affiliation Sites within 1km

Site Name	Borden #	Site Type	Cultural Affiliation
Trillium North 7	AiHd-63	Unknown	Unknown
Sugarbush 3	AiHd-49	Unknown	Unknown
Sugarbush 1	AiHd-47	Unknown	Unknown

All of the above noted archaeological sites are situated within 300 metres of the study area. Therefore, they demonstrate archaeological potential for further archaeological resources with respect to the archaeological assessment of the proposed undertaking. It should be noted that AiHd-49 and AiHd-47 are located within 50 metres of the study area.

5.3.4 Previous Investigations

In 1986, on behalf of the Regional Municipality of Waterloo, Licensee Scarlett Janusas conducted an archaeological survey that recovered three (3) findspots, Sugarbush 1 (AiHd-47), Sugarbush 2 (AiHd-48), and Sugarbush 3 (AiHd-49). As an original copy of the report was not on file on the *Ontario Archaeological Sites Database* (see correspondence with Archaeological Data Coordinator Robert von Bitter, Supplementary Documentation Appendix A), it was noted from the *Archaeological Site Update Sheet* from each site that the Sugarbush sites were encountered during a Controlled Surface Pickup and were all concluded to contain no further CHVI. Sugarbush 1 (AiHb-47) is described as a “wedge”; Sugarbush 2 (AiHd-48) consists of two pieces historic ceramics and fragmented brick rubble approximately 10 m in diameter; Sugarbush 3 (AiHd-49) consists of 4 lithic artifacts.

5.3.5 Location and Current Conditions

The study area is described as 725 Erbsville Road, Part of Lot 28, Upper Block and Part of Lot 45, German Co Tract (Geographic Township of Waterloo, County of Waterloo), City of

Waterloo, Regional Municipality of Waterloo, Ontario. The study area was subject to this assessment as a requirement under the Planning Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Draft Plan of Subdivision and companion Zoning By-law Amendment application as part of the pre-submission process.

The present use of the study area is as actively farmed agricultural land, a residence and vacant woodlot. The study area is roughly 9.13 hectares in area. The study area includes within it ploughable lands, woodlot, small portion of lawn by the existing residence and a gravel driveway. The gravel driveway enters the study area off of Erbsville Road and continues to the southern side of the existing residence. The meadow is located in the northern portion of the study area. The ploughable agricultural land is located in the southeast portion of the study area. The wooded area is located centrally and towards the northwest corner of the study area. There is also a portion of Laurel Creek that flows through the centre of the property. The study area is bounded on the north by Conservation Drive and existing residential lots, on the east by the Erbsville cartway and woodlot, on the west by Erbsville Road and on the south by agricultural land. The study area is approximately 135 metres to the east of the intersection of the Erbsville Road and Conservation Drive. A plan of the study area is included within this report as Map 4.

5.3.6 PHYSIOGRAPHIC REGION

The study area is situated within the Waterloo Hills physiographic region. The area is mainly hills composed of very fine sand, which is what makes this region unique. The hills make the elevation in the region range from 1000 to 1400 feet a.s.l. Some of the hills are simply sandy ridges while others are kames, irregular hills of gravel and sediment deposited by melting glaciers. Complimenting the kames are kettle lakes, round lakes in deep depressions that dot the landscape. The topsoil is very well developed, leading the region to be outstanding for agriculture and for raising livestock (Chapman and Putnam 1984: 136-137).

5.3.7 SURFACE WATER

Sources of potable water, access to waterborne transportation routes, and resources associated with watersheds are each considered, both individually and collectively to be the highest criteria for determination of the potential of any location to support extended human activity, land use, or occupation. Accordingly, proximity to water is regarded as the primary indicator of archaeological resource potential. The Standards and Guidelines for Consultant Archaeologists stipulates that undisturbed lands within 300 metres of a water source are considered to have archaeological potential (MTC 2011: 21).

A portion of Laurel creek is located within the central portion of the study area. This creek is seen as one continuous flow through the centre of the study area in the Historic Atlas Map of 1861 and 1877.

5.3.8 CURRENT PROPERTY CONDITIONS CONTEXT

Current characteristics encountered within an archaeological research study area determine if property Assessment of specific portions of the study area will be necessary and in what manner a Stage 2 Property Assessment should be conducted, if necessary. Conventional assessment methodologies include pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. For the purpose of determining where property Assessment is necessary and feasible, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.3.8.1 BUILDINGS AND STRUCTURAL FOOTPRINTS

A building, for the purposes of this particular study, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to property Assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area contains an existing residence, located within the woodlot near the western extent of the property.

5.3.8.2 DISTURBANCE

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of past quarrying, major landscaping, and sewage and infrastructure development (MTC 2011: 18), as well as driveways made of gravel or asphalt or concrete, in-ground pools, and wells or cisterns. Surfaces paved with interlocking brick, concrete, asphalt, gravel and other surfaces meant to support heavy loads or to be long wearing hard surfaces in high traffic areas, must be prepared by the excavation and removal of topsoil, grading, and the addition of aggregate material to ensure appropriate engineering values for the supporting matrix and also to ensure that the installations shed water to avoid flooding or moisture damage. All hard surfaced areas are prepared in this fashion and therefore have no or low archaeological potential. Major utility lines are conduits that provide services such as water, natural gas, hydro, communications, sewage, and others. These major installations should not be confused with minor below ground service

installations not considered to represent significant disturbances removing archaeological potential, such as services leading to individual structures which tend to be comparatively very shallow and vary narrow corridors. Areas containing substantial and deeply buried services or clusters of below ground utilities are considered areas of disturbance, and may be excluded from Stage 2 Property Assessment. Disturbed areas are excluded from Stage 2 Property Assessment due to no or low archaeological potential and often because they are also not viable to assess using conventional methodology.

> *"Earthwork is one of the major works involved in road construction. This process includes excavation, material removal, filling, compaction, and construction. Moisture content is controlled, and compaction is done according to standard design procedures. Normally, rock explosion at the road bed is not encouraged. While filling a depression to reach the road level,* ***the original bed is flattened after the removal of the topsoil.*** *The fill layer is distributed and compacted to the designed specifications. This procedure is repeated until the compaction desired is reached. The* ***fill material should not contain organic elements,*** *and possess a low index of plasticity. Fill material can include gravel and decomposed rocks of a particular size, but should not consist of huge clay lumps. Sand clay can be used. The area is considered to be adequately compacted when the roller movement does not create a noticeable deformation.* ***The road surface finish is reliant on the economic aspects, and the estimated usage."*** *[Emphasis Added]*
>
> (Goel 2013)

The supporting matrix of a hard paved surface cannot contain organic material which is subject to significant compression, decay and moisture retention. Topsoil has no engineering value and must be removed in any construction application where the surface finish at grade requires underlying support.

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation that can remove archaeological potential. This consideration does not apply to relatively minor below ground services that connect structures and facilities to services that support their operation and use. Major servicing corridors will be situated within adjacent road allowances with only minor, narrow and relatively shallow underground services entering into the study area to connect existing structures to servicing mainlines. The relatively minor, narrow and shallow services buried within a residential property do not require such extensive ground disturbance to remove or minimize archaeological potential within affected areas.

The study area contains a gravel driveway and existing house, located within the woodlot near the western extent of the property.

5.3.8.3 Low-Lying and Wet Areas

Landscape features that are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Property Assessment due to inaccessibility.

The study area contains a portion of Laurel creek that flows through the centre of the study area. This area cannot be assessed using conventional methodology and has therefore been excluded from the Stage 2 Property Assessment. Maps 5 & 6 of this report illustrate the locations of these features.

5.3.8.4 Steep Slope

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Property Assessment.

Generally, steep slopes are not assessed because steep slopes are interpreted to have low potential, not due to viability to assess, except in cases where the slope is severe enough to become a safety concern for archaeological field crews. In such cases, the Occupational Health and Safety Act takes precedence as indicated in the introduction to the Standards and Guidelines. AMICK Consultant Limited policy is to assess all slope areas whenever it is safe to do so. Assessment of slopes, except where safety concerns arise, eliminates the invariably subjective interpretation of what might constitute a steep slope in the field. This is done to minimize delays due to conflicts in such interpretations and to increase the efficiency of review.

The study area does not contain areas of steep slope.

5.3.8.5 Wooded Areas

Areas of the property that cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Property Assessment, and are required to be assessed using test pit survey methodology.

The study area contains a wooded area in the western, central, and northern portion of the study area. Maps 5 & 6 of this report illustrate the locations of these features.

5.3.8.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands that have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly turns the soil, which in turn brings previously buried artifacts to the surface, which are then easily identified during visual inspection. Furthermore, by allowing the ploughed area to weather

sufficiently through rainfall, soil is washed off of exposed artifacts at the surface and the visibility of artifacts at the surface of recently worked field areas is enhanced markedly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area contains ploughable agricultural land in the southeast portion of the property. Maps 5 & 6 of this report illustrate the locations of these features.

5.3.8.7 LAWN, PASTURE, MEADOW

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be considered too small to warrant ploughing, (i.e. less than one hectare in area), such as yard areas surrounding existing structures, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The study area contains a small portion of lawn along the southern side of the residence. There is also a small area of meadow in the northern portion of the study area. Maps 5 & 6 of this report illustrate the locations of these features.

5.3.9 SUMMARY

Background research indicates the vicinity of the study area has potential for archaeological resources of Native origins based on proximity to previously registered archaeological sites of Pre-Contact origins and proximity to a source of potable water. Background research also suggests potential for archaeological resources of Post-Contact origins based on proximity to previously registered archaeological sites of Post-Contact origins, proximity to historic roadways, and proximity to the historic community of Erbsville.

Current conditions within the study area indicate that some areas of the property may have no or low archaeological potential and do not require Stage 2 Property Assessment or should be excluded from Stage 2 Property Assessment. These areas would include the footprint of existing structures and areas under pavement or gravel. A significant proportion of the study area does exhibit archaeological potential and therefore a Stage 2 Property Assessment is required.

Archaeological potential does not indicate that there are necessarily sites present, but that environmental and historical factors suggest that there may be as yet undocumented archaeological sites within lands that have not been subject to systematic archaeological research in the past.

6.0 FIELD RECONNAISSANCE METHODS AND WEATHER CONDITIONS

It must be noted that AMICK Consultants Limited has been retained to assess lands as specified by the proponent. As such, AMICK Consultants Limited is constrained by the terms of the contract in place at the time of the Archaeological Assessment and can only enter into lands for which AMICK Consultants Limited has received consent from the owner or their agent(s). The proponent has been advised that the entire area within the planning application must be subject to archaeological assessment and that portions of the planning application may only be excluded if they are of low potential, are not viable to assess, or are subject to planning provisions that would restrict any such areas from any form of ground altering activities.

6.1 FIELD WORK METHODS AND WEATHER CONDITIONS

This report confirms that the study area was subject to Stage 2 Property Assessment by high intensity test pit methodology at a five-metre interval between individual test pits, and by high intensity pedestrian survey at an interval of five metres between individual transects on 16 August 2021.

The fieldwork undertaken as a component of this study was conducted according to the archaeological fieldwork standards and guidelines (including weather and lighting conditions). Weather conditions were appropriate for the necessary fieldwork required to complete the Stage 2 Property Assessment and to create the documentation appropriate to this study. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Maps 5 & 6 of this report. Upon completion of the property inspection of the study area, it was determined that select areas would require Stage 2 Property Assessment.

It must be noted that AMICK Consultants Limited has been retained to assess lands as specified by the proponent. As such, AMICK Consultants Limited is constrained by the terms of the contract in place at the time of the Archaeological Assessment and can only enter into lands for which AMICK Consultants Limited has received consent from the owner or their agent(s). The proponent has been advised that the entire area within the planning application must be subject to archaeological assessment and that portions of the planning application may only be excluded if they are of low potential, are not viable to assess, or are subject to planning provisions that would restrict any such areas from any form of ground altering activities.

6.2 PROPERTY INSPECTION

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the study area to facilitate the Stage 2 Property

Assessment. All areas of the study area were visually inspected and select features were photographed as a representative sample of each area defined within Maps 5 & 6 . Observations made of conditions within the study area at the time of the inspection were used to inform the requirement for Stage 2 Property Assessment for portions of the study area as well as to aid in the determination of appropriate Stage 2 Property Assessment strategies. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Maps 5 & 6 of this report.

6.3 PEDESTRIAN SURVEY

In accordance with the Standards and Guidelines for Consultant Archaeologists, pedestrian survey is required for all portions of the study area that are ploughable or can be subject to cultivation. This is the preferred method to utilize while conducting an assessment. This report confirms that the conduct of pedestrian survey within the study area conformed to the following standards:

1. *Actively or recently cultivated agricultural land must be subject to pedestrian survey.*
   [All actively or recently cultivated agricultural land was subject to pedestrian survey.]

2. *Land to be surveyed must be recently ploughed. Use of chisel ploughs is not acceptable. In heavy clay soils ensure furrows are disked after ploughing to break them up further.*
   [All land was recently ploughed.]

3. *Land to be surveyed must be weathered by one heavy rainfall or several light rains to improve visibility of archaeological resources.*
   [All land was weathered by rainfall.]

4. *Provide direction to the contractor undertaking the ploughing to plough deep enough to provide total topsoil exposure, but not deeper than previous ploughing.*
   [Direction was given to the contractor undertaking the ploughing to plough deep enough to provide total topsoil exposure, but not deeper than previous ploughing]

5. *At least 80 % of the ploughed ground surface must be visible. If surface visibility is below 80% (e.g. due to crop stubble, weeds, young crop growth), ensure the land is re-ploughed before surveying.*
   [Roughly 90% of the ploughed field surface was exposed and visible.]

6. *Space survey transects at maximum intervals of 5m (20 survey transects per hectare)*
   [All transects were conducted at an interval of 5m between individual transects.]

7. *When archaeological resources are found, decrease survey transects to 1m intervals over a minimum of a 20m radius around the find to determine whether it is an isolated find or part of a larger scatter. Continue working outward at this interval until full extent of the surface scatter has been defined.*
   [Not Applicable – No archaeological resources were encountered.]

8. *Collect all formal artifact types and diagnostic categories. For 19th century archaeological sites, collect all refined ceramic sherds (or, for larger sites collect a sufficient sample to form the basis for dating).*
   [Not Applicable – No archaeological resources were encountered.]

9. *Based on professional judgment, strike a balance between gathering enough artifacts to document the archaeological site and leaving enough in place to relocate the site if it is necessary to conduct further assessment.*
   [Not Applicable – No archaeological resources were encountered.]

(MTC 2011: 30-31)

6.4 TEST PIT SURVEY

In accordance with the Standards and Guidelines for Consultant Archaeologists, test pit survey is required to be undertaken for those portions of the study area where deep prior disturbance had not occurred prior to assessment or which were accessible to survey. Test pit survey is only used in areas that cannot be subject to ploughing or cultivation. This report confirms that the conduct of test pit survey within the study area conformed to the following standards:

1. Test pit survey only on terrain where ploughing is not possible or viable, as in the following examples:

a. wooded areas
[All wooded areas were test pit surveyed at an interval of 5 m between individual test pits]

b. pasture with high rock content
[Not Applicable - The study area does not contain any pastures with high rock content]

c. abandoned farmland with heavy brush and weed growth
[Not Applicable - The study area does not contain any abandoned farmland with heavy brush and weed growth]

d. orchards and vineyards that cannot be strip ploughed (planted in rows 5 m apart or less), gardens, parkland or lawns, any of which will remain in use for several years after the survey

[Not Applicable - The study area does not contain any of the above-mentioned circumstances]

e. properties where existing landscaping or infrastructure would be damaged. The presence of such obstacles must be documented in sufficient detail to demonstrate that ploughing or cultivation is not viable.
[Not Applicable - The study area does not contain the above-mentioned circumstances]

f. narrow (10 m or less) linear survey corridors (e.g., water or gas pipelines, road widening). This includes situations where there are planned impacts 10 m or less beyond the previously impacted limits on both sides of an existing linear corridor (e.g., two linear survey corridors on either side of an existing roadway). Where at the time of fieldwork the lands within the linear corridor meet the standards as stated under the above section on pedestrian survey land preparation, pedestrian survey must be carried out. Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.
[Not Applicable – The study area does not contain any linear corridors]

2. *Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.*
[All test pits were spaced at an interval of 5m between individual test pits]

3. *Space test pits at maximum intervals of 10 m (100 test pits per hectare) in areas more than 300 m from any feature of archaeological potential.*
[The entirety of the test pitted areas of the study area were assessed using high intensity test pit methodology at an interval of 5 metres between individual test pits. When artifacts were encountered, the test pit interval was intensified (See Section 6.5)]

4. *Test pit to within 1 m of built structures (both intact and ruins), or until test pits show evidence of recent ground disturbance.*
[Test pits were placed within 1m of all built structures]

5. *Ensure that test pits are at least 30 cm in diameter.*
[All test pits were at least 30 cm in diameter]

6. *Excavate each test pit, by hand, into the first 5 cm of subsoil and examine the pit for stratigraphy, cultural features, or evidence of fill.*
[Regardless of the interval between individual test pits, all test pits were excavated by hand into the first 5 cm of subsoil where possible and examined for stratigraphy, cultural features, or evidence of fill. In areas where topsoil was not present, test pits were excavated to a minimum of 30cm in depth to ensure that

suspected subsoils, if present, were not layers of fill or waterborne materials overlying buried topsoil. If these areas consisted of fill soils, test pits were also excavated below grade in order to ensure disturbance extended below even deep topsoil layers such as those encountered in agricultural fields to ensure that the depth of disturbance was sufficient to remove archaeological potential in most contexts. Where other evidence indicates locations of potentially significant archaeological sites that may include cultural deposits below fill soils, alternative strategies to explore beneath the fill layers found in some areas may be necessary to complete the Stage 2 Property Assessment. In such cases, further Stage 2 Property Assessment may be recommended following completion of the property survey under conventional methodologies.]

7. *Screen soil through mesh no greater than 6 mm.*
   [All soil was screened through mesh no greater than 6 mm]

8. *Collect all artifacts according to their associated test pit.*
   [All artifacts were collected according to their associated test pit.]

9. *Backfill all test pits unless instructed not to by the landowner.*
   [All test pits were backfilled]

(MTC 2011: 31-32)

6.5 INTENSIFIED TEST PIT SURVEY

According to the Standards and Guidelines for Consultant Archaeologists the initial finds of archaeological resources through test pitting may be insufficient to make it clear that a Stage 3 archaeological assessment is necessary, and it may therefore be desirable to carry out further work within Stage 2 rather than proceeding to Stage 3. If that is the case, the following requirements must be met in determining whether a Stage 3 should be carried out. This section of the report confirms that the following standards were met:

1. *Continue test pit excavation on the survey grid to determine whether there are further positive test pits. This may produce sufficient archaeological resources to meet the criteria for making a recommendation to carry out a Stage 3 assessment, in which case further Stage 2 fieldwork is not necessary.*
   [All remaining test pits were excavated, but no further archaeological resources were encountered]
2. *When insufficient archaeological resources are found through continued survey on the grid to meet the criteria for continuing to Stage 3, intensify survey coverage around the positive test pit to determine whether a recommendation for a Stage 3 assessment can be supported.*
   a. *Excavate a maximum of eight additional test pits within this intensified area,* ***and***
   b. *one or more 1 m test units, placing at least one unit over the positive test pit*

> [A 1m square was excavated in addition to 8 test pits at an interval of 2.5m around the positive test pit, but no further archaeological resources were encountered during the intensified test unit survey.] (MTC 2011: 33)

Approximately 40% of the study area consisted of actively farmed agricultural land. The study area contained a vacant woodlot which accounted for approximately 45% of the total study area. A gravel driveway, making up approximately 2.5% of the study area, enters the property off of Erbsville Road and continues to the southern side of the existing residence. The residence is approximately 5% of the study area. The meadow which took up approximately 2.5%, is located in the northern portion of the study area. There is also a portion of Laurel Creek, approximately 5% of the study area, which flows through the centre of the property.

7.0 RECORD OF FINDS

Section 7.8.2 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 137-138) outlines the requirements of the Record of Finds component of a Stage 2 report:

1. *For all archaeological resources and sites that are identified in Stage 2, provide the following:*
    a. *a general description of the types of artifacts and features that were identified*
    b. *a general description of the area within which artifacts and features were identified, including the spatial extent of the area and any relative variations in density*
    c. *a catalogue and description of all artifacts retained*
    d. *a description of the artifacts and features left in the field (nature of material, frequency, other notable traits).*
2. *Provide an inventory of the documentary record generated in the field (e.g. photographs, maps, field notes).*
3. *Submit information detailing exact site locations on the property separately from the project report, as specified in section 7.6. Information on exact site locations includes the following:*
    a. *table of GPS readings for locations of all archaeological sites*
    b. *maps showing detailed site location information.*

7.1 ARCHAEOLOGICAL RESOURCES

As a result of the property Assessment of the study area, 1 isolated Pre-contact lithic find was encountered. The isolated find spot is described below.

7.1.1 ISOLATED FINDS

Isolated Find 1

Isolated Find 1 (CAT# 01) consists of a single secondary flake of Onondaga chert. The flake measures 46 mm in length, 12 mm in width, and 7.4 mm in thickness. A further description of this artifact can be found appended to this report in Appendix A.

The artifact from this assessment is packaged in a single banker's box and housed at the Exeter office of AMICK Consultants Limited until such time as an appropriate permanent location, as approved by MHSTCI, is located and appropriate arrangements for the transfer of the collection and associated responsibilities for the material is made.

7.3 ARCHAEOLOGICAL FIELDWORK DOCUMENTATION

The documentation produced during the field investigation conducted in support of this report includes: one sketch map, one page of photo log, one page of field notes, and 33 digital photographs.

8.0 ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment on 16 August 2021, consisting of high-intensity test pit survey at an interval of five metres between individual test pits and high intensity pedestrian survey at an interval of five metres between individual transects. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Southwestern District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario.

8.1 STAGE 1 ANALYSIS AND CONCLUSIONS

As part of the present study, background research was conducted in order to determine the archaeological potential of the proposed project area.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment." (OMCzCR 1993)

The evaluation of potential is further elaborated Section 1.3 of the Standards and Guidelines for Consultant Archaeologist (2011) prepared by the Ontario Ministry of Tourism and Culture:

" The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property's archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment."
(MTC 2011: 17)

Features or characteristics that indicate archaeological potential when documented within the study area, or within close proximity to the study area (as applicable), include:

" - previously identified archaeological sites
- *water sources (It is important to distinguish types of water and shoreline, and to distinguish natural from artificial water sources, as these features affect site locations and types to varying degrees.):*
    - *primary water sources (lakes, rivers, streams, creeks)*
    - *secondary water sources (intermittent streams and creeks, springs, marshes, swamps)*
    - *features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches)*
    - *accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)*
- *elevated topography (e.g., eskers, drumlins, large knolls, plateaux)*
- *pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground*
- *distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.*
- *resource areas, including:*
    - *food or medicinal plants (e.g., migratory routes, spawning areas, prairie)*
    - *scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert)*
    - *early Post-contact industry (e.g., fur trade, logging, prospecting, mining)*
- *areas of early Post-contact settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.*
- *Early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)*
- *property listed on a municipal register or designated under the Ontario Heritage Actor that is a federal, provincial or municipal historic landmark or site*
- *property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations"*

(MTC 2011: 17-18)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if property assessment of a study area or portions of a study area is required.

> *"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required."*
>
> (MCC & MOE 1992: 6-7)

> *"The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property's archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment."*
>
> (MTC 2011: 17)

In addition, archaeological sites data is also used to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to establish the relative cultural heritage value or interest of any resources that might be encountered during the conduct of the present study. For example, the relative rarity of a site can be used to assign an elevated level of cultural heritage value or interest to a site that is atypical for the immediate vicinity. The requisite archaeological sites data of previously registered archaeological sites was collected from the MHSTCI and the corporate research library of AMICK Consultants Limited. The Stage 1 Background Research methodology also includes a review of the most detailed available topographic maps, historical settlement maps, archaeological management plans (where applicable) and commemorative plaques or monuments. When previous archaeological research documents lands to be impacted by the proposed undertaking or archaeological sites within 50 metres of the study area, the reports documenting this earlier work are reviewed for pertinent information. AMICK Consultants Limited will often modify this basic methodology based on professional judgment to include additional research (such as, local historical works or documents and knowledgeable informants).

Section 7.7.3 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 132) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

1) *"Identify and describe areas of archaeological potential within the project area.*
2) *Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity)*

that have severely damaged the integrity of archaeological resources and have removed archaeological potential."

CHARACTERISTICS INDICATING ARCHAEOLOGICAL POTENTIAL

Section 1.3.1 of the Standards and Guidelines for Consultant Archaeologists specifies the property characteristics that indicate archaeological potential (MTC 2011: 17-18). Factors that indicate archaeological potential are features of the local landscape and environment that may have attracted people to either occupy the land or to conduct activities within the study area. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) *Previously Identified Archaeological Sites*
   Previously registered archaeological sites have been documented within 300 metres of the study area.

2) *Water Sources*
   Primary water sources are described as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

   There are no identified primary water sources within 300 metres of the study area.

   Secondary water sources are described as including intermittent streams and creeks, springs, marshes, and swamps. Close proximity (300 metres) to secondary water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

   There are secondary water sources within 300 metres of the study area. A portion of Laurel Creek flows through the centre of the property.

3) *Features Indicating Past Water Sources*
   Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases

seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

There are no identified features indicating past water sources within 300 metres of the study area.

4) *Accessible or Inaccessible Shoreline*
This form of landscape feature would include high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.

There are no shorelines within 300 metres of the study area.

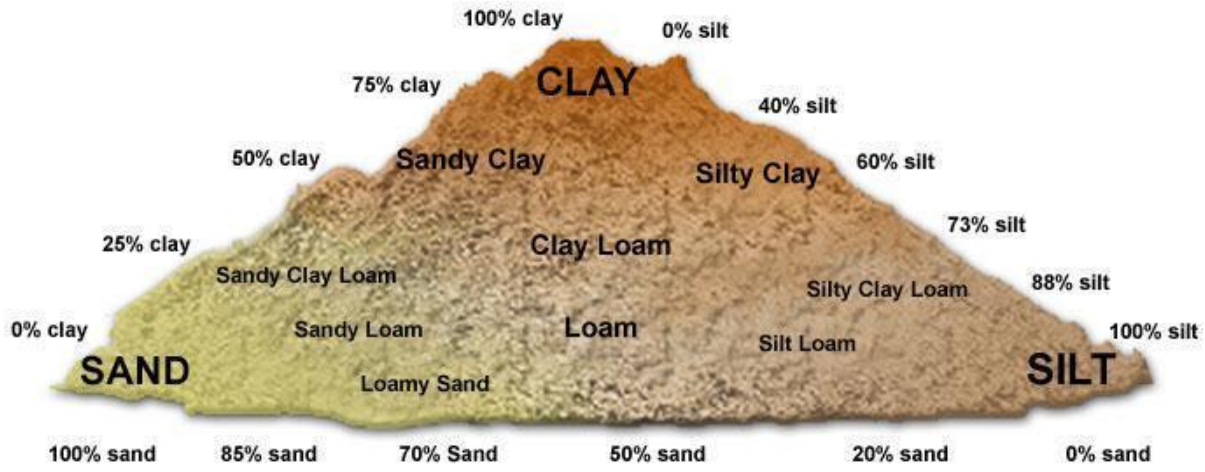
5) *Elevated Topography*
Features of elevated topography that indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are no identified features of elevated topography within the study area.

6) *Pockets of Well-drained Sandy Soil*
Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

The soil throughout the study area is dark brown sandy loam, which is consistent with the wider area surrounding the property. Therefore, the presence of this soil has no impact on potential within the study area, as the wider area is not known for clay soils or exposed bedrock.

The image below (Kuhlmann, Stacy 2017) shows the consistencies of soil types and how they compare to one another. The soil found within the study area was a sandy loam, which contains a high percentage of sand with a high percentage of silt and a low percentage of clay. The lower percentage of clay allows the soil to break up from the action of ploughing alone when not compacted or bound by extensive root masses.



(Kuhlmann, Stacy 2017)

7) *Distinctive Land Formations*

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) *Resource Areas*

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Post-contact industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) *Areas of Early Post-Contact Settlement*

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is situated in close proximity to the historic community of Erbsville identified on the historic atlas map.

10) *Early Historical Transportation Routes*

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated within 100 metres of early settlement roads that appear on the Historic Atlas Map of 1877. These historic roads correspond to the roads presently known as Conservation Drive and Erbsville Road, which are adjacent to the study area.

11) *Heritage Property*

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties that form a part of the study area. However, there are listed or designated heritage buildings or properties that are adjacent to the study area. There are three buildings with potential cultural heritage value or interest listed on the City of Waterloo's Municipal Heritage Register at 741 Erbsville Road, 720 Schnarr Street and 728 Schnarr Street. (City of Waterloo 2019).

12) *Documented Historical or Archaeological Sites*

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no known heritage features, or known historic sites, or known archaeological sites within the study area in addition to those formally documented with the appropriate agencies or previously noted under a different criterion.

CHARACTERISTICS INDICATING REMOVAL OF ARCHAEOLOGICAL POTENTIAL

Section 1.3.2 of the Standards and Guidelines for Consultant Archaeologists specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MTC 2011: 18-19). These characteristics are listed below together with considerations derived from the conduct of this study. The introduction of Section 1.3.2 (MTC 2011: 18) notes that *"Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. This is commonly referred to as 'disturbed' or 'disturbance', and may include:"*

1) *Quarrying*

There is no evidence to suggest that quarrying operations were ever carried out within the study area.

2) *Major Landscaping Involving Grading Below Topsoil*

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties that do not have a long history of Post-Contact occupation can have archaeological potential removed through extensive landscape alterations that penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. Pre-Contact sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities that do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

There is evidence to suggest that major landscaping operations involving grading below topsoil were carried out within the study area. Surfaces paved with interlocking brick, concrete, asphalt, gravel and other surfaces meant to support heavy loads or to be long wearing hard surfaces in high traffic areas, must be prepared by the excavation and removal of topsoil, grading, and the addition of aggregate material to ensure appropriate engineering values for the supporting matrix and also to ensure that the installations shed water to avoid flooding or moisture damage. All hard surfaced areas are prepared in this fashion and therefore have no or low archaeological potential. Disturbed areas are excluded from Stage 2 Property Assessment due to no or low archaeological potential and often because they are also not viable to assess using conventional methodology. These areas include the structure and associated gravel driveway in the western portion of the study area.

3) *Building Footprints*

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars that often obliterate archaeological deposits situated close to the surface.

There are buildings within the study area. There is a residential unit in the western portion of the study area.

4) *Sewage and Infrastructure Development*

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation that can remove archaeological potential.

There is no evidence to suggest that substantial below ground services of any kind have resulted in significant impacts to any significant portion of the study area. Major utility lines are conduits that provide services such as water, natural gas, hydro, communications, sewage, and others. These major installations should not be

> confused with minor below ground service installations not considered to represent significant disturbances removing archaeological potential, such as services leading to individual structures which tend to be comparatively very shallow and vary narrow corridors. Areas containing substantial and deeply buried services or clusters of below ground utilities are considered areas of disturbance, and may be excluded from Stage 2 Property Assessment.

"Activities such as agricultural cultivation, gardening, minor grading and landscaping do not necessarily affect archaeological potential."

(MTC 2011: 18)

"Archaeological potential is not removed where there is documented potential for deeply buried intact archaeological resources beneath land alterations, or where it cannot be clearly demonstrated through background research and property inspection that there has been complete and intensive disturbance of an area. Where complete disturbance cannot be demonstrated in Stage 1, it will be necessary to undertake Stage 2 assessment."

(MTC 2011: 18)

SUMMARY

Table 5 below summarizes the evaluation criteria of the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of proximity to water, and the location of early historic settlement roads adjacent to the study area.

TABLE 5 EVALUATION OF ARCHAEOLOGICAL POTENTIAL

	FEATURE OF ARCHAEOLOGICAL POTENTIAL	YES	NO	N/A	COMMENT
1	Known archaeological sites within 300m	**Y**			If Yes, potential determined
PHYSICAL FEATURES					
2	Is there water on or near the property?	**Y**			If Yes, what kind of water?
2a	Primary water source within 300 m. (lakeshore, river, large creek, etc.)		**N**		If Yes, potential determined
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)	**Y**			If Yes, potential determined
2c	Past water source within 300 m. (beach ridge, river bed, relic creek, etc.)		**N**		If Yes, potential determined
2d	Accessible or Inaccessible shoreline within 300 m. (high bluffs, marsh, swamp, sand bar, etc.)		**N**		If Yes, potential determined
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)		**N**		If Yes, and Yes for any of 4-9, potential determined
4	Pockets of sandy soil in a clay or rocky area		**N**		If Yes and Yes for any of 3, 5-9, potential determined
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		**N**		If Yes and Yes for any of 3-4, 6-9, potential determined
HISTORIC/PREHISTORIC USE FEATURES					
6	Associated with food or scarce resource harvest areas (traditional fishing locations, agricultural/berry extraction areas, etc.)		**N**		If Yes, and Yes for any of 3-5, 7-9, potential determined.
7	Early Post-Contact settlement area within 300 m.	**Y**			If Yes, and Yes for any of 3-6, 8-9, potential determined
8	Historic Transportation route within 100 m. (historic road, trail, portage, rail corridors, etc.)	**Y**			If Yes, and Yes for any 3-7 or 9, potential determined
9	Contains property designated and/or listed under the Ontario Heritage Act (municipal heritage committee, municipal register, etc.)		**N**		If Yes and, Yes to any of 3-8, potential determined
APPLICATION-SPECIFIC INFORMATION					
10	Local knowledge (local heritage organizations, Pre-Contact, etc.)		**N**		If Yes, potential determined
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)		**N**		If Yes, no potential or low potential in affected part (s) of the study area.

If **YES** to any of 1, 2a-c, or 10 Archaeological Potential is **confirmed**
If **YES** to 2 or more of 3-9, Archaeological Potential is **confirmed**

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed** for at least a portion of the study area.

8.2 STAGE 2 ANALYSIS AND CONCLUSIONS

Section 7.8.3 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 138-139) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Property Assessment.

1. *Summarize all finding from the Stage 2 survey, or state that no archaeological sites were identified.*
2. *For each archaeological site, provide the following analysis and conclusions:*
   a. *A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.*
   b. *A comparison against the criteria in 2 Stage 2: Property Assessment to determine whether further assessment is required*
   c. *A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.*

A total of one positive test pit was encountered during the Stage 2 Property Assessment. An intensified test pit survey was conducted with a total of eight test pits dug at a 2.5 metre interval radially around the positive pit. A one by one metre unit was also dug over the initial positive pit. This unit yielded no further archaeological resources, and as such the initial positive pit was determined to be an isolated find spot. See Appendix A for further discussion of the isolated find spot.

9.0 RECOMMENDATIONS

9.1 STAGE 1-2 RECOMMENDATIONS

Under Section 7.8.4 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 139) the recommendations to be made as a result of a Stage 2 Property Assessment are described.

1) For each archaeological site, provide a statement of the following:
a. Borden number or other identifying number
b. Whether or not it is of further cultural heritage value or interest
c. Where it is of further cultural heritage value or interest, appropriate Stage 3 assessment strategies

2) *Make recommendations only regarding archaeological matters. Recommendations regarding built heritage or cultural heritage landscapes should not be included.*
3) *If the Stage 2 survey did not identify any archaeological sites requiring further assessment or mitigation of impacts, recommend that no further archaeological assessment of the property be required.*

As a result of the Stage 1-2 Property Assessment of the study area, one isolated artifact was documented.

1. *The Cultural Heritage Value or Interest (CHVI) of the isolated find has been completely documented and the site has been removed from the study area as a result of standard Stage 2 Property Assessment procedure. There is no remaining CHVI for this location. No further archaeological assessment of the isolated find is warranted;*
2. *Portions of the study area described on the property plan included as Map 4 as "Additional Lands Owned by Applicant" retain archaeological potential and have not been assessed;*
3. *Any proposed use of the lands termed "Additional Lands Owned by Applicant" must be preceded by an archaeological assessment before any ground altering activities of any kind are permitted;*
4. *The areas identified within this report as assessed are clear of further archaeological concern.*

10.0 ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

a. *This report is submitted to the Minister of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c. 0.18. The report is reviewed to ensure that it complies with the standards and guidelines issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.*

b. *It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.*

c. *Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.*

d. *The Cemeteries Act, R.S.O. 1990, c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.*

e. *Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.*

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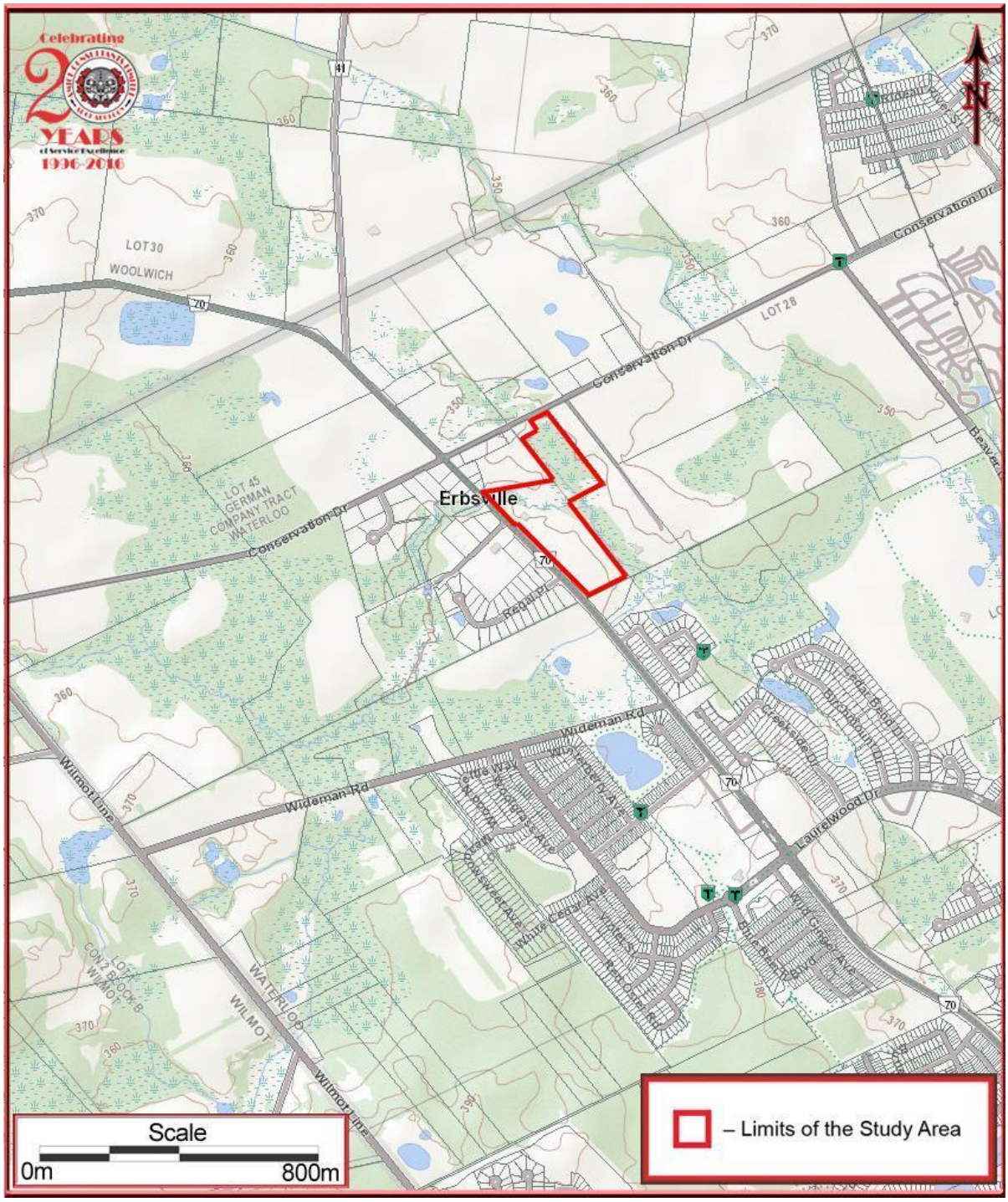
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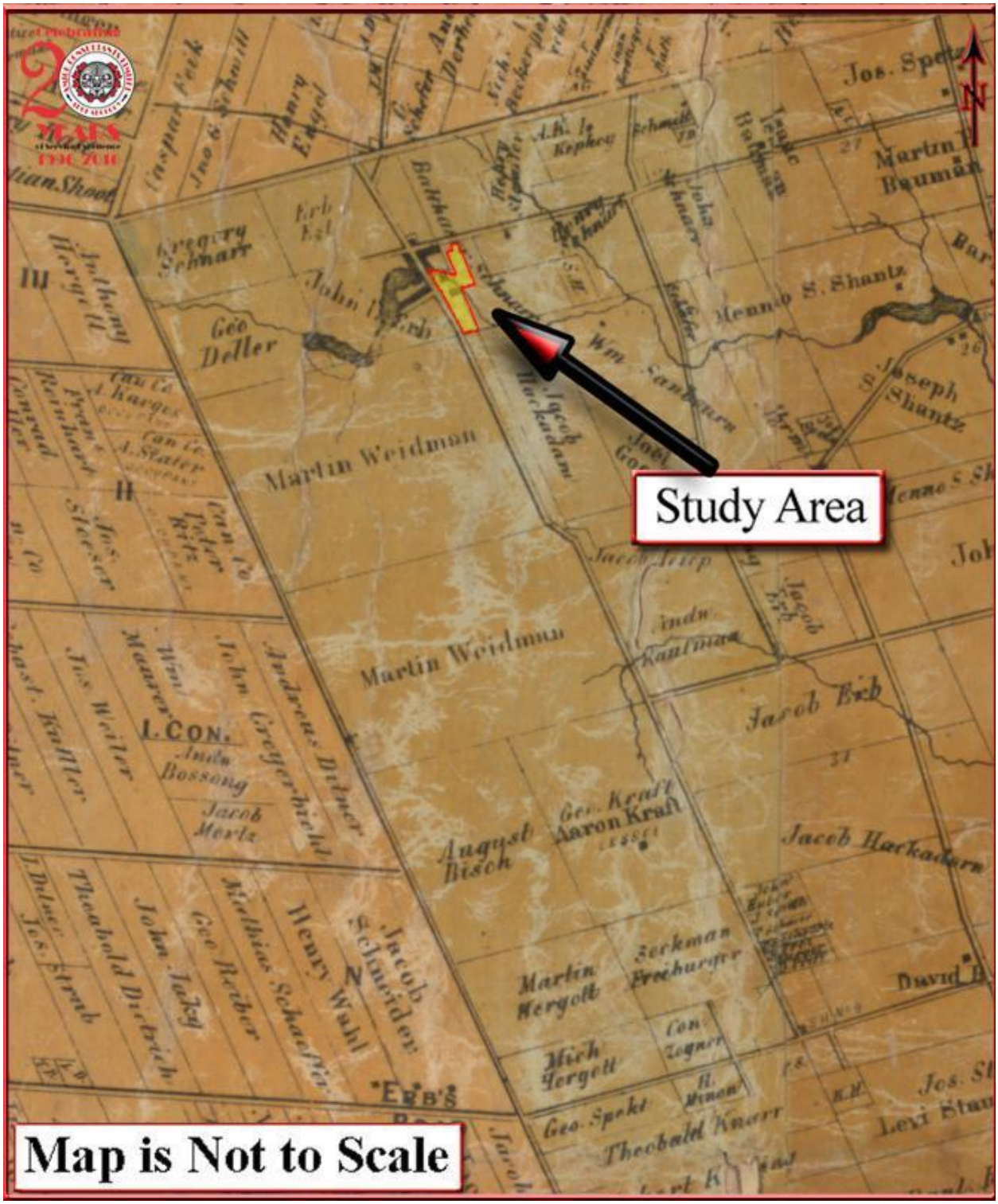
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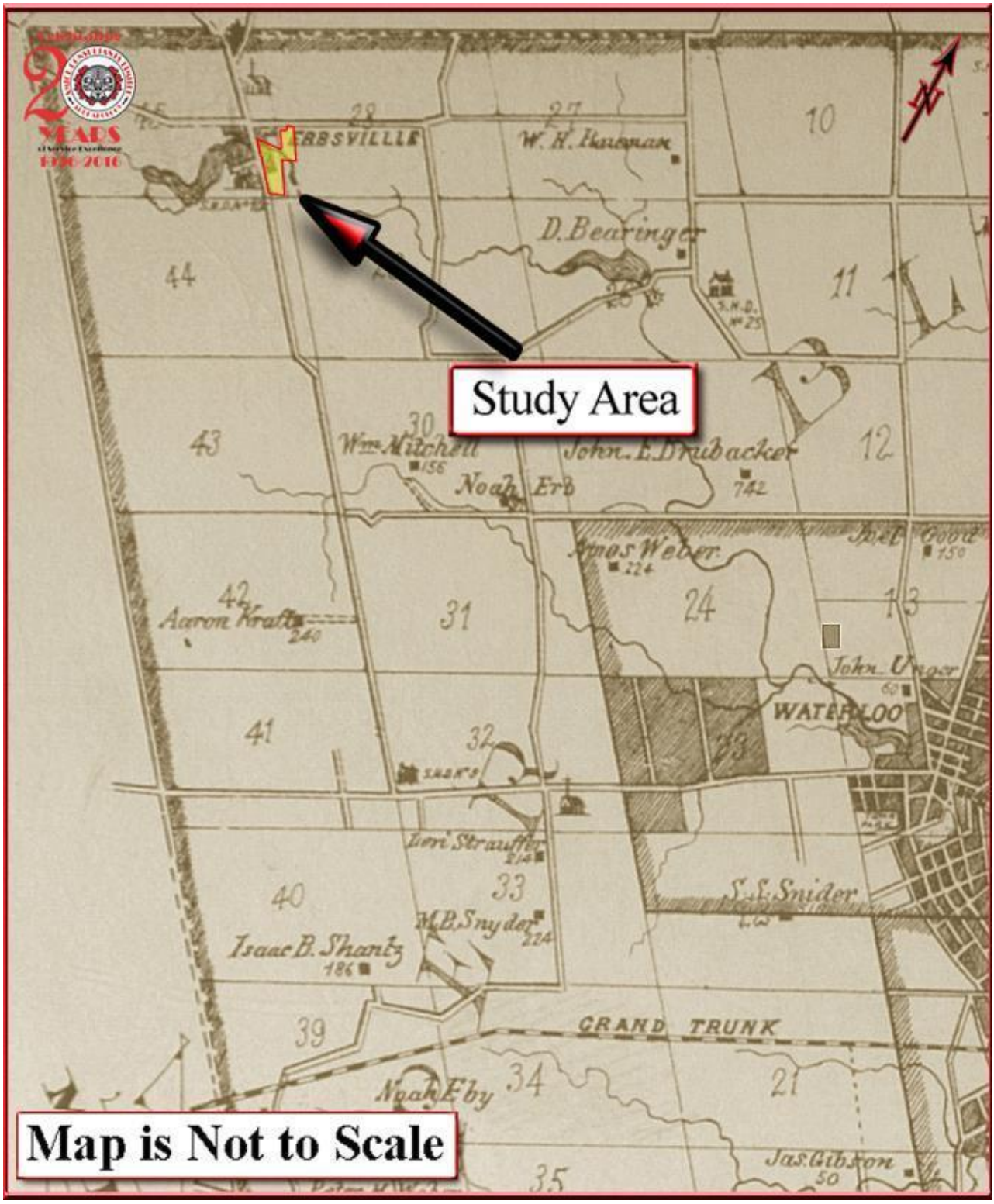
12.0 MAPS



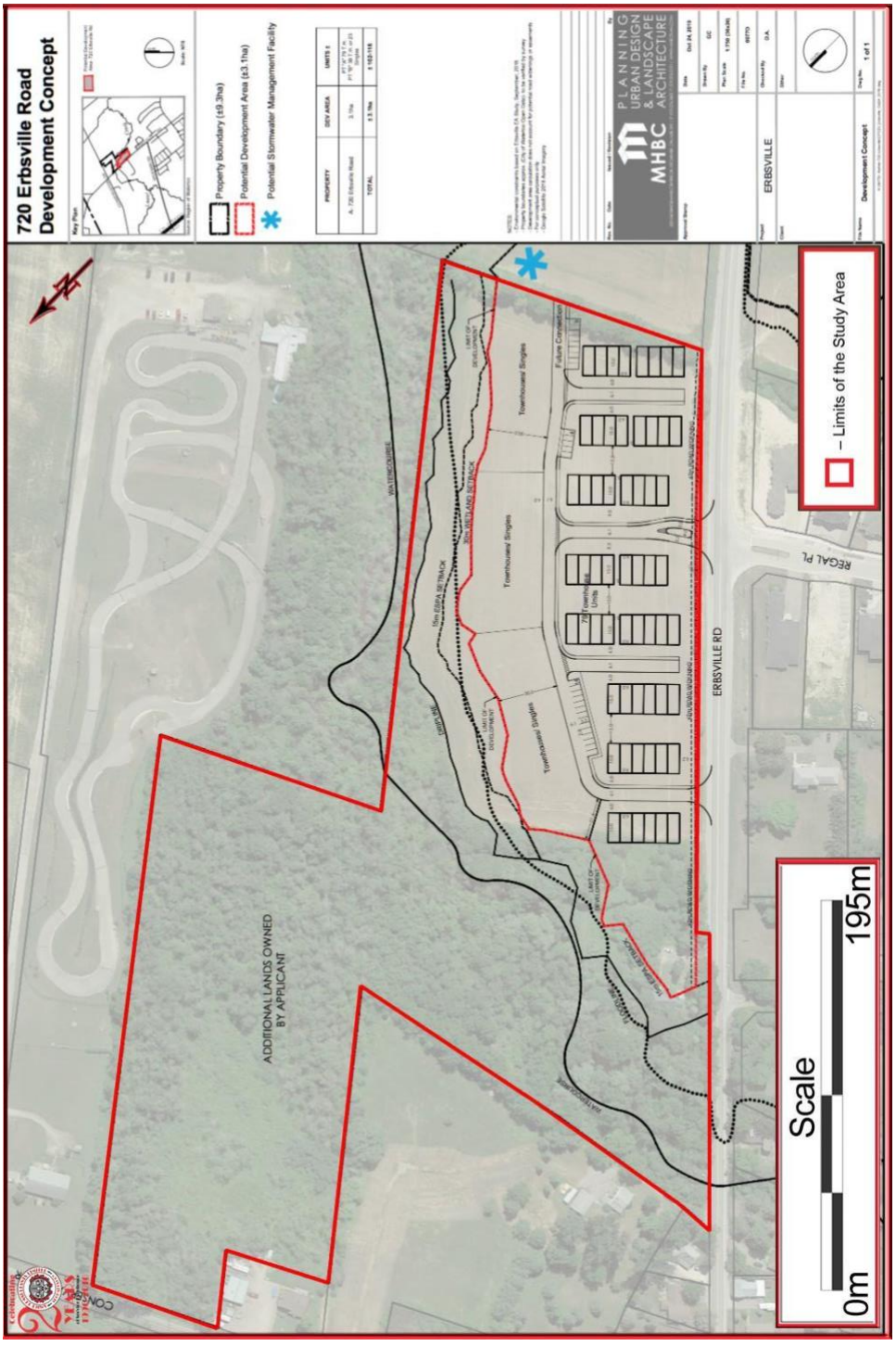
MAP 1 LOCATION OF THE STUDY AREA (ESRI 2018)



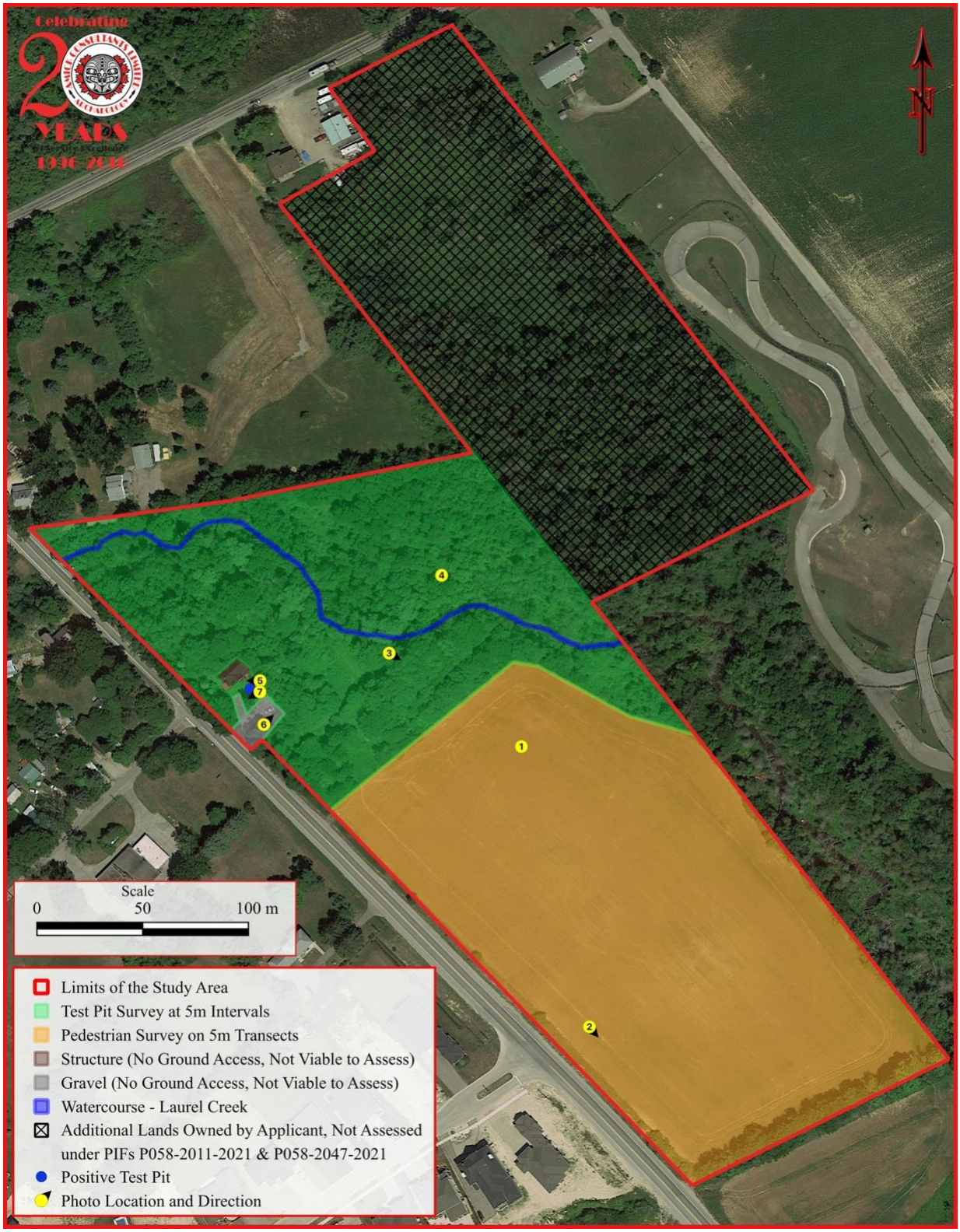
MAP 2 FACSIMILE SEGMENT OF THE ILLUSTRATED HISTORICAL ATLAS OF WATERLOO AND WELLINGTON COUNTIES (WALKER & MILES 1877)



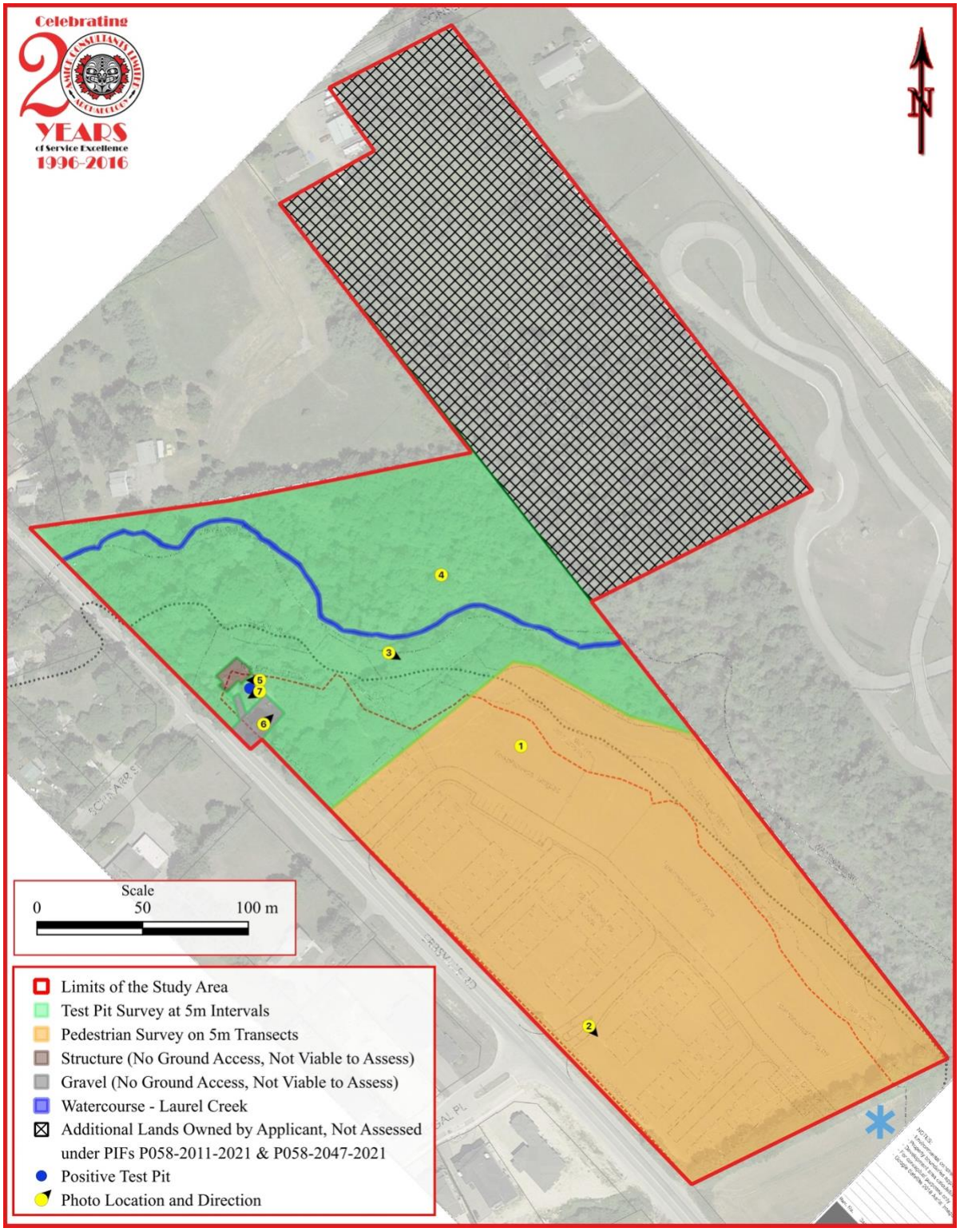
MAP 3 FACSIMILE SEGMENT OF TREMAINE'S MAP OF THE COUNTY OF WATERLOO (TREMAINE 1861)



MAP 4 CONCEPT PLAN OF DEVELOPMENT (MHBC 2019)



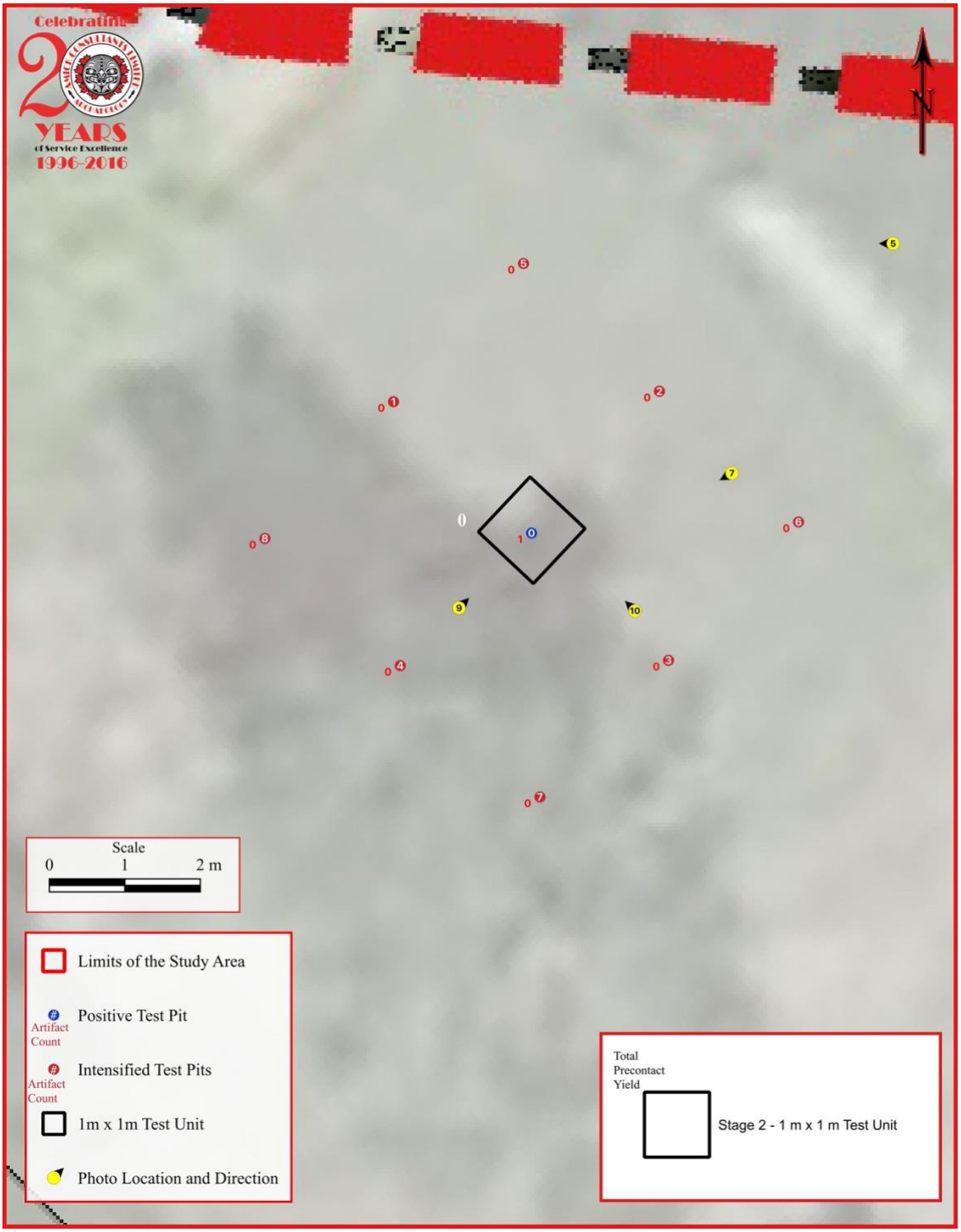
MAP 5 AERIAL PHOTO OF THE STUDY AREA (GOOGLE EARTH 2020)



MAP 6 DETAILED PLAN OF THE STUDY AREA (AFTER MHBC 2019)



MAP 7 AERIAL DEMONSTRATING STAGE 2 ARCHAEOLOGICAL ASSESSMENT: TEST UNIT LOCATION AND ARTIFACT YIELD (GOOGLE EARTH 2020)



MAP 8 DETAILED PLAN OF THE STUDY AREA DEMONSTRATING STAGE 2 ARCHAEOLOGICAL ASSESSMENT: TEST UNIT LOCATION AND ARTIFACT YIELD (AFTER MHBC 2019)

13.0 IMAGES



IMAGE 1 PEDESTRIAN SURVEY SOIL CONDITIONS



IMAGE 2 PEDESTRIAN SURVEY IN PROGRESS



IMAGE 3 TEST PIT SURVEY CONDITIONS



IMAGE 4 TEST PIT IN PROGRESS



IMAGE 5 STRUCTURE



IMAGE 6 GRAVEL DRIVEWAY



IMAGE 7 1 M X 1 M TEST UNIT IN PROGRESS



IMAGE 8 CAT #01: SECONDARY FLAKE



IMAGE 9 TEST UNIT PLAN



IMAGE 10 TEST UNIT PROFILE

APPENDIX A: 720 ERBSVILLE ROAD CATALOGUE

CAT #	TP#	Description	Material	Heat Alt.	Type	Length (mm)	Width (mm)	Thickness (mm)	Notes	Count
01	TP #0	Secondary Flake	Onondaga Chert	N		46	12	7.4	IFS #1	1